

Cochise County Controlling Blue-rich Light

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**Cochise Skies Observatory
Sierra Vista, Arizona**

Background

- **More than 50 members of the Cochise County Association of Astronomical Observatories**
- **Cochise County has an excellent lighting ordinance**
- **Major Professional Observatories need us to preserve skies for research: especially MMTO and MGIO.**
- **Outdoor lighting code needs update especially for digital signs and blue-rich light**

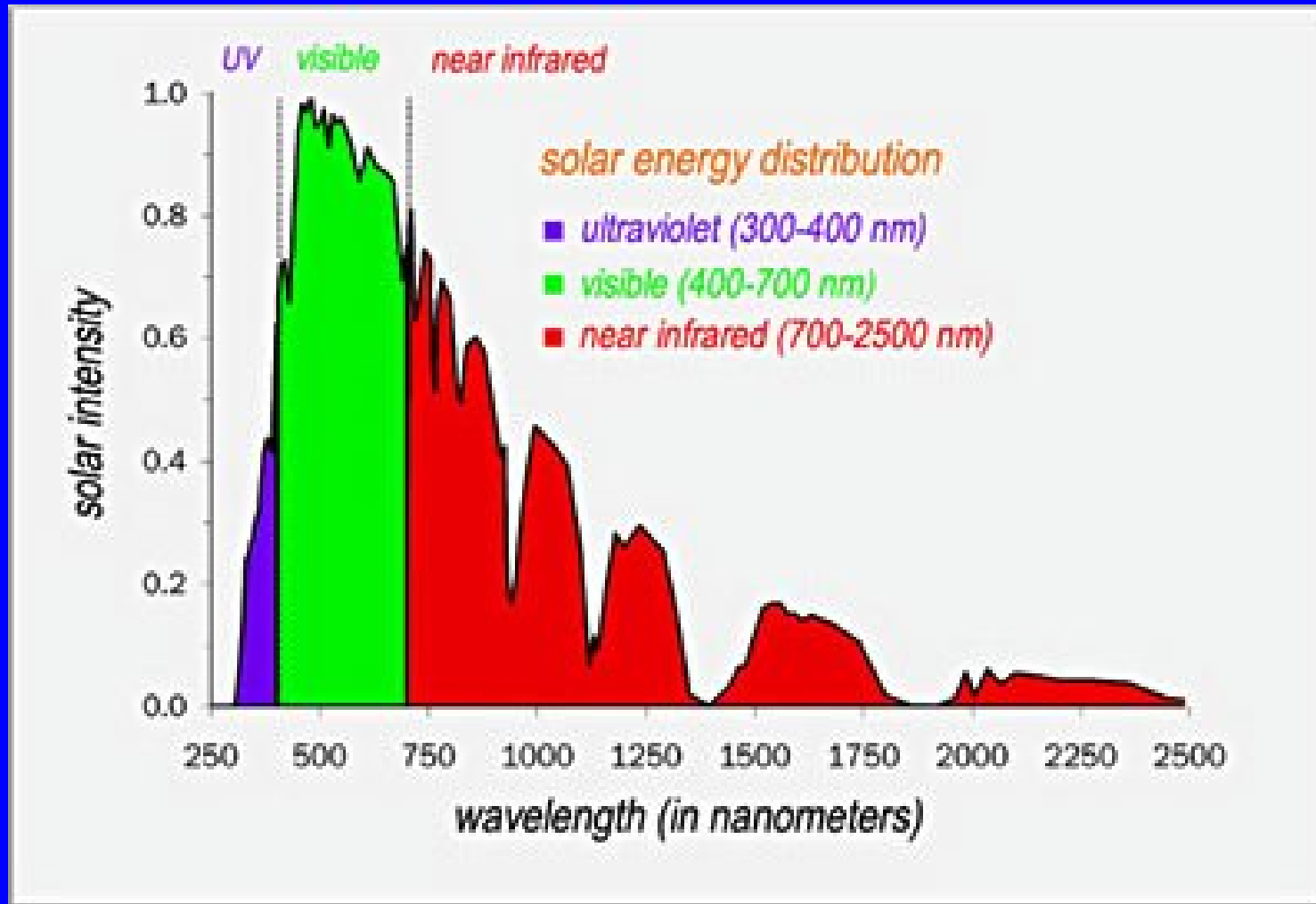
Correlated Color Temperature (CCT)

- Temperature that best matches spectral distribution of lamp.
- Now included on most, if not all, commercial and residential lamps.
- 3,000K and lower are now commonly available.
- LED CCT can be much higher and this is a problem

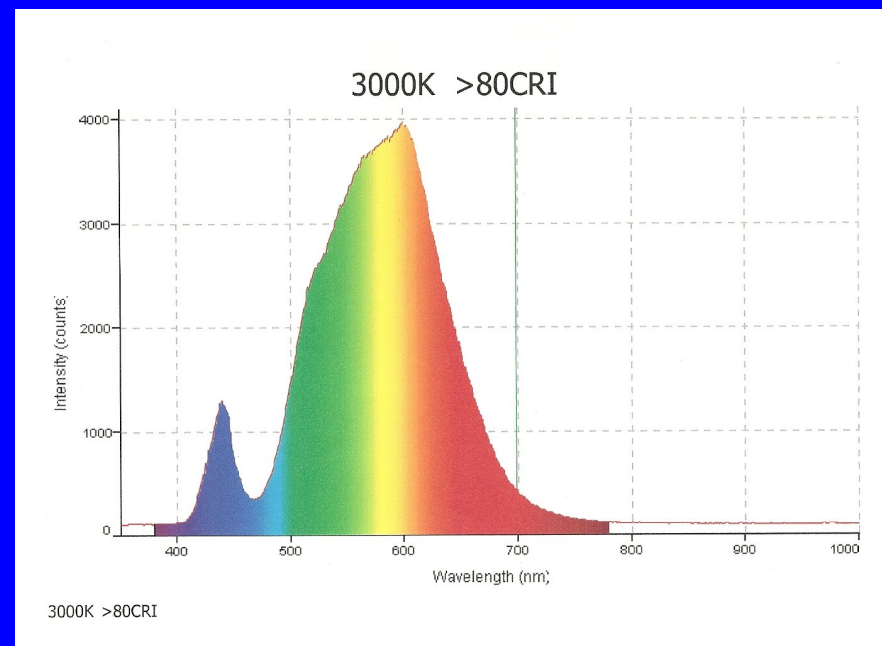
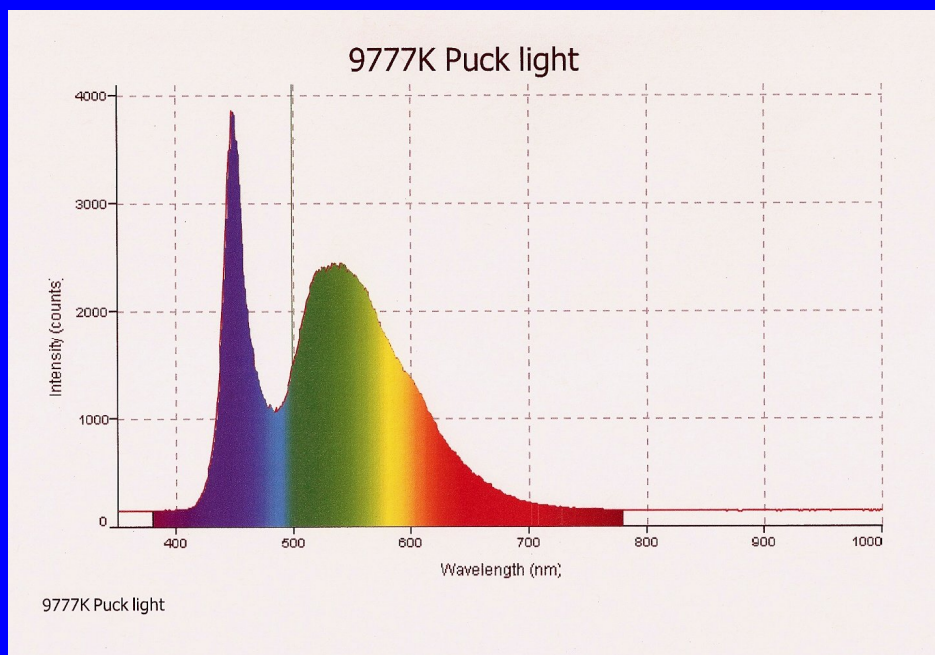
Problems with Blue-rich light

- Increased sky glow – harmful to astronomical research and night sky appreciation
- Human health and melatonin suppression
- Glare problems – especially for elderly
- Wildlife impacts
- Increased problem with macular degeneration

Solar Spectrum



LED Lamp Spectrum



Los Angeles in 1908



Los Angeles basin from Mt. Wilson Observatory, 1 hour exposure by Ferdinand Ellerman, 1908.

Kitt Peak National Observatory, Photo File No. 11781

Los Angeles in 1988



The Lost Beauty of the Night

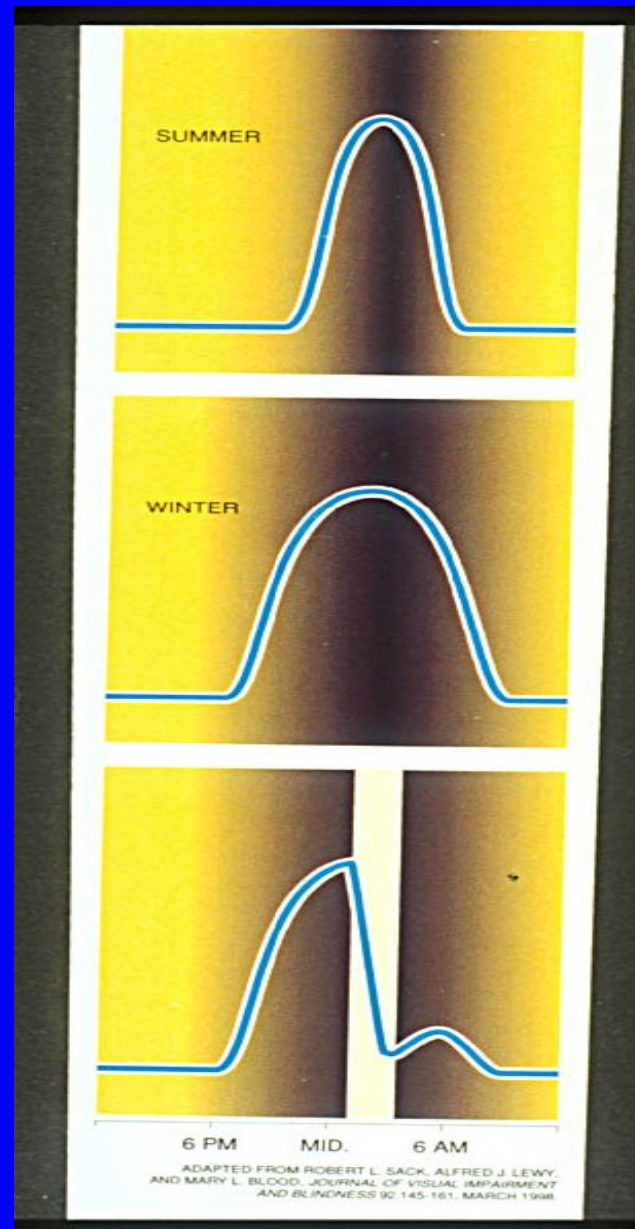


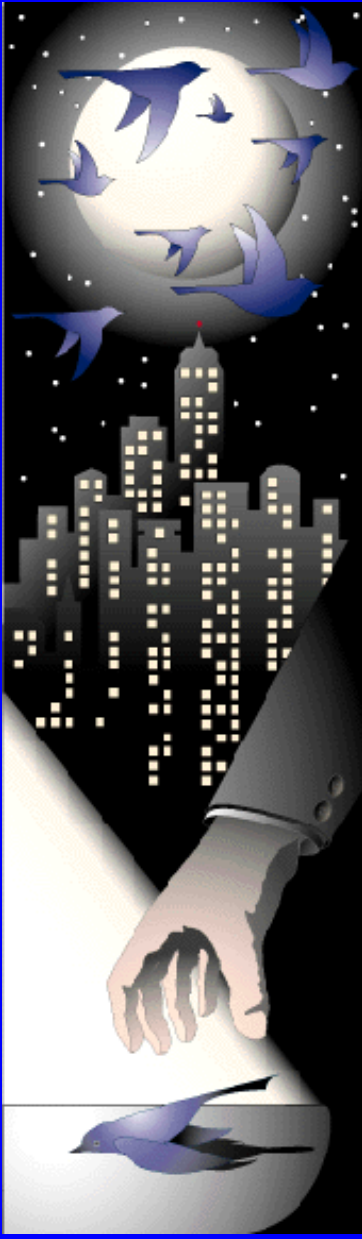
North America at Night



Disruption of Melatonin Production

Dr. David Blask





Fatal Light Awareness Program (FLAP)

Dead birds during migration in Toronto



Why Control Light Pollution? Especially Blue-rich lighting

- Reduce glare and see better and safer
 - Control sky glow and protect night skies
 - Reduce obtrusive light and protect wildlife
 - Sleep better and healthier
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- **Everyone benefits** with a safer, healthier nighttime environment.

Recommendations

- **Cochise County code should set max CCT of 3000K.**
- **Pima County already sets 3500K as max.**
- **Cochise County planning staff should proceed with recommendations of task force.**

Use the right amount of
light only when and
where it's needed.

See better, save energy
and protect the nighttime
environment

